OmniStack 6100 Series

Stackable Workgroup Switches for the Enterprise

ALCATEL

The OmniStack 6100 series, consisting of the OmniStack 6124 and 6148, are cost-effective, stackable workgroup switches for building economical enterprise networks. The OmniStack 6100s are designed for wiring closet and edge applications, and deliver a great set of features including wirespeed performance, L2+ QoS capabilities, port aggregation, security, IP multicast, and a scalable architecture utilizing dedicated hardware based stacking. The OmniStack 6100s provide support for a wide variety of uplinks for flexibility in supporting today's enterprise applications.

OmniStack 6124

OmniStack 6148

The OmniStack 6100 series is a part of the Alcatel OmniStack family and consists of two stackable switching products: the OmniStack 6124 (24-port) and the 6148 (48-port). These switches provide 10/100 Ethernet switching for workgroups and are ideal for medium and large enterprise networks. The OmniStack 6100s protect existing investments because they interoperate with all existing Ethernet and Fast Ethernet equipment and cabling, allowing workgroup networks to be easily upgraded and enhanced with minimum disruption to operations.

Backbone connectivity – The OmniStack 6124 and 6148 connect to the core of the network via Fast Ethernet or Gigabit Ethernet uplinks. With 802.3ad port aggregation, the uplink's bandwidth can be increased in increments of up to four Gbps without disruption.

The OmniStack 6124 and 6148 also support 10/100/1000BaseT, 1000BaseSX, 1000BaseLX, and1000BaseLH Gigabit Ethernet ports to connect to a gigabit core switch. The long haul interfaces (1000BaseLX and 1000BaseLH) are used on large campuses to link distant buildings. The short haul interfaces (1000BaseSX) are used as vertical connections within a building.

OmniStack 6100 layer-2 switching at the edge can be combined with other Alcatel products including the OmniSwitch 7000 or 8000 in the core with its layer 2/3/4 classification – simplifying network complexity and minimizing overall network costs.

Benefits

- **Scalable, cost-effective switching solution**
- **Powerful stacking architecture**
- **Flat price per port – pay as you grow**
- **High-performance, advanced stackable solution – stacking modules allow up to 172 ports in a mixed OS-6124 and OS-6148 stack**
- **High bandwidth between units**
- **Redundant power supply (RPS)**
- **Distributed switching fabric**
- **Redundant stacking module**
- **Redundant network management module**
- **Supports traffic allocation to CoS based on 802.1p and DSCP**
- **IP multicast switching (IGMP snooping)**
- **VLAN support (802.1Q)**
- **Congestion control – flow control (back pressure 802.3x)**
- **Wire-speed switching**
- **802.1x Port Security**
- **MAC address lock down**
- **RADIUS/TACACS+ Admin authentication**

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Intelligent Performance

Whether you need to differentiate services for data applications or implement VoIP, your network infrastructure must be ready to prioritize real time traffic. Even as layer 2 switches, the OmniStack 6100 supports traffic allocation to CoS-based on 802.1p and DSCP. This allows easy implementation and easy to manage end-to-end QoS throughout the network.

Adaptive networking

As enterprises grow or migrate to converged data and voice networks, network infrastructures must scale to support upgrade requirements. When the number of users increases, the OmniStack 6100 can be extended to facilitate a smooth upgrade path by simply adding units and high speed stacking links. 10/100 ports can also be aggregated to create a high-speed link to a server or network backbone. Up to four full duplex 10/100 ports can be aggregated gradually to create an 800 Mbps pipe. A distributed switching fabric guarantees enough power for wire-speed switching.

The OmniStack 6124 and OmniStack 6148 are interoperable and can be mixed in a single stack, thereby protecting the existing investment in Alcatel switching products. This interoperability allows gradual migration to an advanced OmniStack 6100 stackable configuration with the benefits of flexibility and the ability to adapt to changes in network environments.

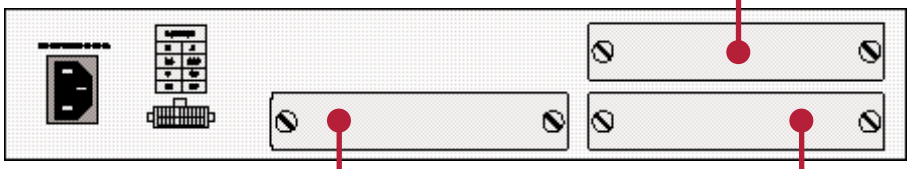
Simplified management

Simplifying network management can decrease the cost of ownership. Using industry standard SNMP traps and RMON probes, the OmniStack 6100 provides enhanced management and easy configuration through a Web-based management interface. Management is optimized via the Alcatel converged network management platform, OmniVista 2000, which is compatible with leading products like HP OpenView and Computer Associates Network IT.

Features

- **Base unit has 24 or 48 (10/100 Mbps) Fast Ethernet switch ports**
- **10/100/1000BaseT autosensing uplink**
- **10BaseT/100BaseTX ports provide auto-negotiation for speed and duplex mode selection**
- **Optional dual-port Fast Ethernet fiber modules and singleport GE modules provide flexible high-performance connectivity to backbone networks**
- **Supports up to five four-port trunks per switch including expansion units, each combining up to four 100BaseTX or 1000BaseX ports into a full duplex fat pipe**
- **Optional stack module for connecting up to six OS-6124 units, or three OS-6148, or a mix of OS-6124 and OS-6148 linking up to 172 ports via a 4 Gbps stack backplane**
- **Optional redundant stacking loop**
- **Prevents packet loss with back pressure and 802.3x flow control**
- **Supports Spanning Tree algorithm for more reliable network communications**
- **Supports standard 802.1Q VLAN tagging for interoperability with standards-compliant switches**
- **Supports 802.1p and Differentiated Services Code Point (DSCP) for multi-media or real-time applications**
- **Provides IP multicast snooping for real-time multicast applications such as video conferencing or streaming audio**
- **Port mirroring for monitoring traffic crossing any port in real time**
- **Provides wide range of management tools – SNMP/RMON and Web agents, out-of-band console connection, and Telnet**

OmniStack 6124/6148 Base Switching Unit



Management module slot
Accommodates the OS-6124-MGT-KIT or OS-6148- MGT-KIT module.
At least one management module is required per standalone base-unit or per stack.

Optional module slot #2
Supports the following modules:

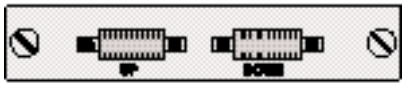
- OS-6STK-KIT
- OS-6100 RST-KIT
- OS-6ESM-100FM-2E
- OS-6GSM-GBIC-1E
- OS-6GSM-FM-1E
- OS-6GSM-FS-1E

Optional module slot #1
Supports the following modules:

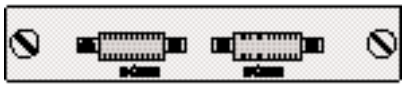
- OS-6ESM-100FM-2E
- OS-6GSM-GBIC-1E
- OS-6GSM-FM-1E
- OS-6GSM-T-1E
- OS-6GSM-FS-1E

OmniStack 6124/6148 Sub-modules

OS-6124 MGT-KIT, or OS-6148 MGT-KIT Management module with console connector and console cable.

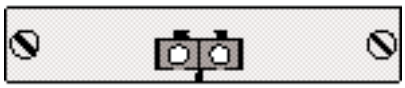


OS-6STK-KIT Stacking module with one "up" and one "down" stacking connector. Each stacking kit includes one short distance stacking cable.

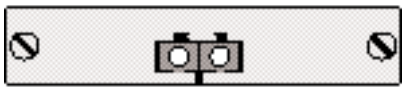


OS-6100-RST-KIT Redundant stacking loop module with two "down" stacking connectors to create a redundant stack. Each redundant stacking kit includes one long distance stacking cable.

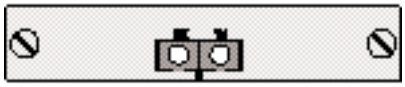
OS-6ESM-100FM-2E 100BaseFX module, two ports, 100 Mbps, multimode fiber, SC connectors.



OS-6GSM-FM-1E Gigabit module, one port, 1000BaseSX, multimode fiber, SC connector.



OS-6GSM-FS-1E Gigabit module, one port, 1000BaseLX, singlemode fiber, SC connector.



OS-6GSM-GBIC-1E Gigabit module, one port, GBIC connector. GBIC transceiver (SX, LX, or LH) must be ordered separately.

OS-6GSM-T-1E Gigabit module, one 1000BaseT port, RJ-45 connector.

Alcatel OmniStack 6100 Series

OmniStack 6100 Specifications

Physical Characteristics

Ports
OS-6124: 24 10BaseT/100BaseTX RJ-45 ports

OS-6148: 48 10BaseT/100BaseTX RJ-45 ports

Uplink modules
Two 100BaseFX fiber ports, one 1000Base SX/LX GE port, 10/100/1000BaseT GBIC GE port for SX, LX, or LH connectivity, and stacking and redundant stacking loop modules

Stack interface (via stack modules)
Stack up to six (OS-6124) units at 4 Gbps stacking interlinks per unit Stack up to three (OS-6148) units at 4 Gbps stacking interlinks per unit

Dimensions
17.37 x 12 x 2.53 in (44.0 x 30.5 x 6.4 cm)

Weight
OS-6124: 10.60 lbs (4.82 kg)
OS-6148: 10.93 lbs (4.96 kg)

Input power: 110~230 VAC, 47 to 63 Hz

Power consumption/dissipation
OS-6124: 70 Watts maximum; 239 BTU/hr maximum
OS-6148: 80 Watts maximum: 273 BTU/hr maximum

Maximum input current: 110 VAC – .80A or 240 VAC – .50A

Technical Summary

Switch processing scheme: Store-and-forward

Address table: 8,000 entries

Queue buffer: 24K bytes per 10/100 Mbps port, two million bytes per 1000 Mbps port

Flow control: Back pressure for half duplex, IEEE 802.3x for full duplex

Broadcast suppression: Discards broadcasts at a critical threshold

Fault tolerance: Socket included on rear panel for attaching a redundant power supply

Network Management

System configuration: Console port, Telnet, Web browser, OmniVista 2000, SNMP

Management agent: SNMP support: MIB II, bridge MIB, Ethernet MIB, RMON MIB, and private MIB

RMON: Groups 1, 2, 3, 9 (statistics, history, alarm, and event)

Spanning Tree algorithm: IEEE 802.1d provides redundant link support

Port-based or 802.1Q VLANs: Up to 256 groups

IP multicast switching: IGMP snooping

Link aggregation
OS-6124: Five trunks with up to four ports per trunk per unit, or 12 trunks with up to four ports per trunk per 6124 stack

OS-6148: Five trunks with up to four ports per trunk per unit, or 12 trunks with up to four ports per trunk per 6148 stack

Port mirroring: 10/100 Mbps and 1000 Mbps port mirroring

Traffic prioritization: Supports two levels of priority

Standards Compliance

OmniStack 6124
CE Mark EN50081-1: EN55022 Class A EN50082-1: IEC 1000-4-2/3/4/6) EN60555-2 Class A EN60555-3
Emissions FCC Class A VCCI Class A CISPR Class A
Safety CSA/NRTL (UL1950 CSA 22.2.950) TUV/GS (EN60950)
Immunity EN 55024 IEC 61000-4-2/3/4/5/6/8/11
Temperature IEC 68-2-14 **Standard operating:** 32~122° F (0~50° C) **Storage:** -40~158° F (-40~70° C)
Humidity: 10% to 90% (non-condensing)
Vibration: IEC 68-2-36, IEC 68-2-6
Shock: EC 68-2-29
Drop: IEC 68-2-32
Standards IEEE IEEE 802.3 10BaseT [1] IEEE 802.3u 100BaseTX and 100BaseFX [2] IEEE 802.3z[3] 1000BaseSX IEEE 802.3ab 1000BaseT IEEE 802.3ad IEEE 802.3x flow control support IEEE 802.1p Priority support IEEE 802.1D (Bridging), 1993 IEEE 802.1Q (Virtual LAN) 1998 IEEE 802.1x

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Ordering Information

Model Number	Description
Base units	
OS-6124	OmniStack 6124 base switching unit. The base switching unit supports 24 ports 10/100BaseTX, one management slot, 2 optional module slots, 8K MAC addresses. Requires one management module to work as standalone unit. Up to 6 OS-6124 can be stacked. One management module at least per stack, a second management module for optional redundancy. User manuals, power cord and rack mount brackets are included.
OS-6148	OmniStack 6148 base switching unit. The base switching unit supports 48 10/100BaseTX ports, one management slot, 2 optional module slots, 8K MAC addresses. Requires one management module to work as standalone unit. Up to 3 OS-6148 can be stacked. One management module at least per stack, a second management module for optional redundancy. User manuals, power cord and rack mount brackets are included.
Management modules	
OS-6124-MGT-KIT	Management module for OS-6124. The management module supports 4 MB of flash and 16 MB of DRAM. Includes switch software and console cable.
OS-6148-MGT-KIT	Management module for OS-6148. The management module supports 4 MB of flash and 16 MB of DRAM. Includes switch software and console cable.
Stack module	
OS-6STK-KIT	Stacking kit for OS-6124. Includes one stacking module and one stacking cable. Should be ordered with each OS-6124 in a stack configuration.
OS-6100-RST-KIT	Redundant stacking loop kit for OS-6124. Includes one redundant stacking loop module and one extended stacking cable. One redundant stacking loop kit should be ordered per stack configuration to enable stacking loop. Use in place of the stacking kit in the top OS-6124 unit in the stack.
Fiber optic module	
OS-6ESM-100FM-2E	OmniStack 6124 and 6024 100BaseFX module, 2 ports, 100Mbps, multimode fiber, SC connectors. When this module is used with OS-6124 or OS-6148 and running SW V 3.2 or higher, the DSCP to CoS feature is enabled.
Gigabit uplink modules	
OS-6GSM-FM-1E	OmniStack 6124 and 6148 Gigabit module, 1 port, 1000BaseSx, multimode fiber, SC connectors. When this module is used with OS-6124 or OS-6148 and running SW V 3.2 or higher, the DSCP to CoS feature is enabled.
OS-6GSM-FS-1E	OmniStack 6124 and 6148 Gigabit module, 1 port, 1000BaseLX, single mode fiber, SC connectors. When this module is used with OS-6124 or OS-6148 and running SW V 3.2 or higher, the DSCP to CoS feature is enabled.
OS-6GSM-GBIC-1E	OmniStack 6124 and 6148 GBIC module, 1 port, GBIC connector. GBIC transceiver must be ordered separately. When this module is used with OS-6124 or OS-6148 and running SW V 3.2 or higher, the DSCP to CoS feature is enabled.
OS-6GSM-T-1E	OmniStack 6024, 6124 and 6148 Gigabit module, 1 port, autosensing 10/100/1000BaseT, RJ45 connector. Requires Cat5 or Cat5e quality grade cabling, maximum length 100m. When this module is used with OS-6124 or OS-6148 and running SW V 3.2 or higher, the DSCP to CoS feature is enabled.
GBIC transceivers	
GBIC-LH-70	1000BaseLH GBIC – Gigabit Interface Converter. Extra long distance (up to 70 km) over SMF.
GBIC-LX	1000BaseLX GBIC – Gigabit Interface Converter. Long distance – 5 km over SMF
GBIC-SX	1000BaseSX GBIC – Gigabit Interface Converter. Short distance MMF – 220 m on 62.5/125 um multimode fiber and 500 m on 50/125 um multimode fiber.
Redundant power supply	
RDP-150-AC	150 Watt redundant power supply for OS-6124 and OS-6148

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